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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,745	11/14/2002	Nenad Rijavec	BLD920020007	7517
33595	7590	02/09/2006	EXAMINER	
INTERNATIONAL BUSINESS MACHINES CORPORATION 9000 SOUTH RITA ROAD TUCSON, AZ 85744				HUNTSINGER, PETER K
ART UNIT		PAPER NUMBER		
2624				

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/065,745	RIJAVEC, NENAD
	Examiner	Art Unit
	Peter K. Huntsinger	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**DOUGLAS Q. TRAN
PRIMARY EXAMINER**

- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

DETAILED ACTION

Response to Amendment

1. In response to the amendment, the objections to claims 1-5 are withdrawn.

Response to Arguments

2. Applicant's arguments filed 11/22/05 have been fully considered but they are not persuasive.

On page 7 of the response, the applicant argues in essence that:

The instruction operator 114 of Barry et al. is not networked with the RIP engines and certainly not connected to the RIP engine inputs.

a. Barry et al. disclose an instruction operator which communicates with a plurality of RIP engines (col. 4, lines 34-40). These components can be considered networked because the instruction operator is able to direct information to the RIP engines. This is similar to two computers that are connected to the internet however they are not directly connected to each other.

Claims 1 and 3 do not include the limitation that the sequencer and the raster image processors are directly connected.

On page 8 of the response, in respect to claims 6 and 9, the applicant argues in essence that:

The combination of Barry et al., Fujii et al., and Venkateswar et al. do not disclose communicating queued packaged print stream data portions directly to a plurality of raster image processors.

b. Venkateswar et al. disclose queuing packaged print stream data portions; and communicating queued packaged print stream data portions directly to a plurality of raster image processors (col. 2, lines 21-28). The main processor is shown in Fig. 2a to be directly connected to the parallel processors.

Claim Objections

3. Claims 10 and 11 are objected to because of the following informalities: The phrase "wherein the sequencer said outport port is connected to the raster image processor said input ports" should be replaced with "wherein the sequencer's said outport port is connected to the raster image processors' said input ports". Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390.

Referring to claim 1, Barry et al. disclose an apparatus comprising: a pipeline of elements processing print control data and having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20). Barry et al. do not disclose expressly a plurality of head drivers. Fujii et al. disclose a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver

corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii et al. with Barry et al. to obtain the invention as specified in claim 1.

Referring to claim 3, Fujii et al. disclose an apparatus according to claim 1 wherein each of said raster image processors converts data from a form communicated as a print data stream to a form to be communicated as data signals to a print head driver (col. 6, lines 60-65).

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390 as applied to claim 1 above, and further in view of Venkateswar et al. U.S. Patent 6,532,016.

Referring to claim 2, Barry et al. and Fujii et al. disclose rasterizing images and generating data signals communicated to a print head driver, but do not disclose expressly a raster queue. Venkateswar et al. disclose queuing packaged individual page data to be communicated to said raster image processors and further wherein individual ones of said raster image processors draw from said queued data as processing of data related to an individual page is completed (col. 2, lines 21-28). Barry et al., Fujii et al., and Venkateswar et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Therefore, it would have been obvious to combine

Venkateswar et al. with Barry et al. and Fujii et al. to obtain the invention as specified in claim 2.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390 as applied to claim 3 above, and further in view of Hohensee et al. U.S. Patent 5,946,460.

Referring to claim 4, Barry et al. disclose raster image processors but do not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee disclose each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or to be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry et al. and Hohensee et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee et al. with Barry et al. to obtain the invention as specified in claim 4.

8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943, Fujii et al. U.S. Patent 6,315,390, and Hohensee et al. U.S. Patent 5,946,460.

Referring to claim 5, Barry et al. disclose an apparatus comprising: a pipeline of elements processing print control data and having: a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20). Barry et al. do not disclose expressly a plurality of head drivers. Fujii et al. disclose a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Barry et al. do not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. Hohensee disclose each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60). Barry et al. and Hohensee et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page. Therefore, it would have been obvious to combine Hohensee et al. with Barry et al. and Fujii et al. to obtain the invention as specified in claim 5.

9. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943, Fujii et al. U.S. Patent 6,315,390, and Venkateswar et al. U.S. Patent 6,532,016.

Referring to claims 6 and 9, Barry et al. disclose a method comprising the steps of: receiving a print data stream and parsing the stream into local (col. 4, lines 34-38) and global portions (col. 4, lines 26-30); packaging together parsed local and global print stream data portions (col. 5, lines 8-13). Barry et al. do not disclose expressly a raster queue. Venkateswar et al. disclose queuing packaged print stream data portions; and communicating queued packaged print stream data portions directly to a plurality of raster image processors (col. 2, lines 21-28). Barry et al. and Venkateswar et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Barry et al. disclose processing a plurality of communicated packaged print stream data portions in parallel but do not disclose expressly a plurality of head drivers. Fujii et al. disclose generating print head driving data signals; and communicating the generated print head driving data signals to the print heads of a printer (col. 6, lines 60-65). Barry et al. and Fujii et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been

obvious to combine Fujii et al. with Barry et al. and Venkateswar et al. to obtain the invention as specified in claims 6 and 9.

Referring to claim 7, Barry et al. disclose a method according to claim 6 wherein said step of packaging print stream data portions comprises packaging portions applicable to individual pages (col. 7, lines 34-36).

Referring to claim 8, Barry et al. disclose a method according to claim 6 wherein said step of processing comprises generating bit map data signals (col. 10, lines 59-60).

10. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry et al. U.S. Patent 6,825,943 and Fujii et al. U.S. Patent 6,315,390 as applied to claims 1 and 5 above, and in further view of Venkateswar et al. U.S. Patent 6,532,016.

Referring to claims 10 and 11, Barry et al. disclose the sequencer and raster image processors but do not disclose expressly the sequencer being connected to the raster image processors. Venkateswar et al. disclose a sequencer (main processor 52) being connected to raster image processors (parallel processors 54) (Fig. 2a). Barry et al. and Venkateswar et al. are combinable because they are from the same field of printing systems. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to connect the master processor with the parallel processors. The motivation for doing so would have been to eliminate the need for a separate component to separate and distribute data. Therefore, it would have been obvious to

combine Venkateswar et al. with Barry et al. to obtain the invention as specified in claims 10 and 11.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PKH



DOUGLAS Q. TRAN
PRIMARY EXAMINER

